## **EUROPEAN PATENT OFFICE**

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APPLICANT: MITSUBISHI ELECTRIC CORP;

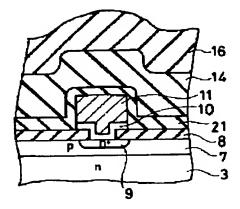
INVENTOR: TOMINAGA ATSUSHI;

: H01L 21/331 H01L 29/73 H01L 21/283 INT.CL.

H01L 29/46 // H01L 21/90

: SEMICONDUCTOR DEVICE AND ITS TITLE

MANUFACTURE



ABSTRACT: PURPOSE: To completely prevent the deterioration of electric characteristics due to the influence of water content or the like permeating from the outside, by forming a silicon nitride film and a titanium oxide film wherein the density of the film itself is higher than a silicon oxide film, on the side wall of a polycrystalline silicon layer.

> CONSTITUTION: After a metal wiring layer 11 is formed, an SiN film 21 as an insulating film and an SiO film 14 as an interlayer insulating film are formed in order on an insulating film 8 containing a polycrystalline silicon layer 10 and a metal wiring layer 11 of a first layer, by using a plasma CVD method. Since the polycrystalline silicon layer 10 forming an emitter leading-out electrode is covered with the SiN film 21 as an insulating film, the polycrystalline silicon layer 10 does not directly come into contact with the SiO film 14 as an interlayer insulating film, so that the deterioration of electric characteristics due to the influence of water content or the like permeating from the outside can be completely prevented. Thereby the reliability of a device can be improved.

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